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Term:

(bacter\$4 near10 transfor\$7) near10 mechan\$8

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USPT,EPAB,DWPI	(bacter\$4 near10 transfor\$7) near10 mechan\$8	27	<u>L10</u>
USPT,EPAB,DWPI	18 near10 bacter\$4	6	<u>L9</u>
USPT,EPAB,DWPI	membrane near10 fluidity	549	<u>L8</u>
USPT,EPAB,DWPI	12 near10 13	1	<u>L7</u>
USPT,EPAB,DWPI	14 near10 15	7	<u>L6</u>
USPT,EPAB,DWPI	14 near10 increas\$7 or enhanc\$7 or better or more	3708631	<u>L5</u>
USPT,EPAB,DWPI	13 near10 11	485	<u>L4</u>
USPT,EPAB,DWPI	competen\$4 or transformability or (transformation near3 ability)	13577	<u>L3</u>
USPT,EPAB,DWPI	membrane\$1 near10 11	87	<u>L2</u>
USPT,EPAB,DWPI	bacter\$4 near10 transform\$7	8915	<u>L1</u>

L8 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 1
 AN 1992:55464 CAPLUS
 DN 116:55464
 TI In vivo study of the state of order of the membranes of Gram-negative
bacteria by Fourier-**transform** infrared spectroscopy
 (FT-IR)
 AU Schultz, Christian; Naumann, Dieter
 CS Dep. Cytol., Robert Koch-Inst., Berlin, D-1000/65, Germany
 SO FEBS Lett. (1991), 294(1-2), 43-6
 CODEN: FEBLAL; ISSN: 0014-5793
 DT Journal
 LA English
 TI In vivo study of the state of order of the membranes of Gram-negative
bacteria by Fourier-**transform** infrared spectroscopy
 (FT-IR)
 AB Temp.-induced order/disorder transition profiles were obtained from the
 membranes of intact Gram-neg. bacterial cells by FT-IR anal. of the
 frequency shifts of the acyl chain methylene sym. stretching band as a
 monitor. Cells grown at different temps. yielded distinct transition
 profiles. At the individual growth temps., however, the nearly alike
 frequency values indicated a very similar state of order of the bacterial
 membranes. The FT-IR data were complemented by gas chromatog. anal. of
 whole cell fatty acid comprn. The FT-IR data obtained in vivo gave direct
 evidence of the adaptation of the state of order and **fluidity** of
 bacterial **membranes** to varying growth temps.

L8 ANSWER 3 OF 3 MEDLINE
 AN 83267434 MEDLINE
 DN 83267434 PubMed ID: 6348205
 TI Transformation in Escherichia coli: studies on the role of the heat shock
 in induction of competence.
 AU van Die I M; Bergmans H E; Hoekstra W P
 SO JOURNAL OF GENERAL MICROBIOLOGY, (1983 Mar) 129 (Pt 3) 663-70.
 Journal code: I87; 0375371. ISSN: 0022-1287.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198309
 ED Entered STN: 19900319
 Last Updated on STN: 19900319
 Entered Medline: 19830923
 CT Check Tags: Support, Non-U.S. Gov't
 Cations, Divalent
 Cold
 *DNA, Bacterial: ME, metabolism
 Deoxyribonucleases: ME, metabolism
 *Escherichia coli: GE, genetics
 Escherichia coli: ME, metabolism
 Heat
Membrane Fluidity
 Membrane Lipids: ME, metabolism
***Transformation, Bacterial**
 beta-Lactamases: ME, metabolism

14 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2001 ACS
 AN 1986:439099 CAPLUS
 DN 105:39099
 TI Cation dependent induction of **competence** in **bacteria**:
 a study of cation interaction with Escherichia coli cells
 AU Sabelnikov, A. G.; Il'yashenko, B. N.
 CS NII Epidemiol. Mikrobiol., Moscow, USSR
 SO Mol. Genet., Mikrobiol. Virusol. (1986), (6), 18-25
 CODEN: MGMVDU
 DT Journal
 LA Russian
 TI Cation dependent induction of **competence** in **bacteria**:
 a study of cation interaction with Escherichia coli cells
 SO Mol. Genet., Mikrobiol. Virusol. (1986), (6), 18-25
 CODEN: MGMVDU
 AB [45Ca] interaction with E. coli cells was studied under conditions of
 cation-dependent induction of competence. Within the range of Ca²⁺
 concns. 0.2-20 mM, other cations (Mn²⁺, Mg²⁺, but not Rb⁺) competed
 successfully with Ca²⁺ for binding sites. Cellular-cationic interactions
 at high bivalent cation concns. (40-400 mM) resulted in cellular
 aggregation and plasmolysis. These conditions, however, were not
 sufficient for competence induction. Under the conditions of the binding
 expts., the inducing effect of cations decreased in the following order:
 Ca(NO₃)₂ .apprx. CaCl₂ > Ca(CH₃COO)₂ > MnCl₂. MgCl₂ and RbCl did not
 induce competence. To induce competence, the inducing cations apparently
 exert a specific effect, for example, the induction of certain structural
 changes in cellular **membranes**, which is different from the
 general effects of decreasing the surface potential (aggregation) and
 cellular plasmolysis.

L14 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2001 ACS
 AN 1978:611796 CAPLUS
 DN 89:211796
 TI Competence-related increased enzyme release from Streptococcus sanguis
 (Wicky) cells
 AU Fuchs, Pawel G.; Ceglowski, Piotr; Dobrzanski, Wladyslaw T.
 CS Inst. Biopharm., Med. Acad., Warsaw, Pol.
 SO Acta Microbiol. Pol. (1978), 27(3), 131-91
 CODEN: AMPOAX; ISSN: 0001-6195
 DT Journal
 LA English
 SO Acta Microbiol. Pol. (1978), 27(3), 131-91
 CODEN: AMPOAX; ISSN: 0001-6195
 AB The ability of competent (induced by competence factor) and noncompetent
 S. sanguis cells to release enzymes to the environment was studied. Both
 competent and noncompetent cells leaked aldolase, phosphatase, and DNase
 but the activities liberated from the competent cells were always roughly
 2-fold higher than those released from noncompetent cells. This
 increased
 enzyme leakage from competent cells occurred in all kinds of media and
 procedures employed. The leakage of enzymes followed time-dependent
 kinetics (different for aldolase and phosphatase), was temp. sensitive,
 and had a pH optimum. The increased enzyme release was probably not due
 to cell disruption, but rather to an alteration in the cell permeability
 barrier. These results strongly support the unmasking model proposed for
competence development in **bacteria**.
 ST Streptococcus **membrane** permeability competence factor; enzyme
 release Streptococcus competence factor; transformation competence factor
 enzyme release

L14 ANSWER 23 ON MEDLINE
AN 80164769 MEDLINE
DN 80164769 PubMed ID: 396437
TI Transformation and preservation of **competent bacterial**
cells by freezing.
AU Morrison D A
SO METHODS IN ENZYMOLOGY, (1979) 68 326-31.
Journal code: MVA; 0212271. ISSN: 0076-6879.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198006
ED Entered STN: 19900315
Last Updated on STN: 19980206
Entered Medline: 19800616
TI Transformation and preservation of **competent bacterial**
cells by freezing.
SO METHODS IN ENZYMOLOGY, (1979) 68 326-31.
Journal code: MVA; 0212271. ISSN: 0076-6879.
CT Calcium: PD, pharmacology
Cell Membrane Permeability: DE, drug effects
Cloning, Molecular: MT, methods
*Escherichia coli: GE, genetics
*Freezing
Glycerol
Preservation, Biological
*Transformation, Genetic

(FILE 'HOME' ENTERED AT 17:22:27 ON 01 JUN 2001)

FILE 'CAPLUS, MEDLINE' ENTERED AT 17:22:37 ON 01 JUN 2001

L1	9043 S BACTER? (10N) TRANSFORM?
L2	94 S MEMBRANE? (10N) L1
L3	3 S (MECHANISM? OR THEORY OR THEORIES) (10N) L2
L4	2 DUP FEM L3 (1 DUPLICATE REMOVED)
L5	20427 S MEMBRANE? (10N) FLUID?
L6	0 S L1 (10N) L5
L7	4 S L1 AND L5
L8	3 DUP FEM L7 (1 DUPLICATE REMOVED)
L9	445 S BACTER? (5N) (COMPETEN? OR COMPETAN?)
L10	0 S L9 AND L5
L11	46 S L9 AND MEMBRANE?
L12	34 DUP FEM L11 (12 DUPLICATES REMOVED)
L13	0 S L12 AND (FATTY W ACID?)
L14	26 S L12 AND PY:1996 E BLOOM F/AU
L15	90 S E3 OR E24 OR E25-E32
L16	83 DUP FEM L15 (7 DUPLICATES REMOVED)
L17	4 S L16 AND L1
L18	87 S (FATTY (W) ACID?) (5N) (BACTER? (5N) MEMBRANE?)
L19	5 S (TRANSFORM? OR COMPETEN? OR COMPETAN?) AND L18
L20	4 DUP FEM L19 (1 DUPLICATE REMOVED)